

covering the valuable kinds is one that requires no scientific knowledge of the plants, and commends itself for its practical common sense. He gathers fresh, clean-looking specimens. If they have a bad or unpleasant odor when cooking they are discarded; and one will soon be able to tell the good from the bad at this time with considerable certainty. A small amount of the cooked fungus is then eaten; if it has a pleasant taste and no disagreeable results follow, it is partaken of more freely next time, and is soon put on the list of valuable kinds. Tasting of the fresh fungus is but little assistance, as an acrid or nauseating property is often dispelled in the preparation. There is no doubt that the danger of fungus-poisoning has been unnecessarily exaggerated. With the caution just pointed out the danger is so greatly lessened that it is practically reduced to zero, and no one need hesitate to make use of this abundant supply of nourishing and palatable food. It may be added that many sorts will be found harmless enough, but of no more culinary value than so much grass or wood, being either not juicy or without a rich flavor.

ON THE FIRST PAGE of the sketch of Dr. William Baldwin, published in our last number, at the end of the seventh line, for "Josiah," read "Joshua."

## CURRENT LITERATURE.

A Revision of the genus *Fraxinus*, by TH. WENZIG, in Engler's *Botanische Jahrbuch*, iv. p. 164-188 (1883), is evidently the result of much pains-taking, and quite free from all tendency to undue multiplication of the species. In the American species he generally follows, and much commends, the Synoptical Flora of North America; making, however, certain changes, the propriety of which is to be questioned.

*F. GREGGII*, Gray, is given as a synonym of *F. Schiedeana*, Cham. & Schlecht. (which was Dr. Torrey's original suggestion), upon the evidence of the description. Wenzig has only Schiede's plant; we have only Gregg's and Bigelow's. So the case is not yet settled. A collection of our specimens with Wenzig's description of *F. Schiedeana* leads to a belief that the two are not identical, but we hope to have them directly compared.

Coming now to the American *Fraxinasters*, Dr. Wenzig makes the two subsections, *Epiptera* and *Periptera*, which we have insisted on, though without giving them names. But to our surprise he refers our *F. viridis* to the latter, thus separating it widely from *F. pubescens*, the samare of which are just the same. He does not figure the fruit of our *F. viridis*, which he has from "Brendel and Rühl" (Riehl?), surely either the wrong thing, or in abnormal form. Taking his species in order we have:

*F. AMERICANA*, L. To this is referred *F. juglandifolia* of Willd., as well as of Lam., doubtless on authority of the herbarium, and as the character by Willdenow looks that way, we may conclude that the reference of his plant in the Synoptical Flora to *F. viridis* is a mistake. The reference of the original of this latter name we will discuss in another connection. *F. epiptera* of Michaux is of course referred here.

Var. *MICROCARPA* and var. *TEXENSIS*, Gray, are simply adopted.

Var. *UHDEI* and var. *OVALIFOLIA*, are from Mexico, coll. Uhde, and are unknown to us.

Var. *PISTACLEFOLIA* is founded on *F. pistaciaefolia*, Torr., and we are unable to draw distinct limits between its forms and those of *F. Americana*.

Var. *CORIACEA* is *F. pistaciaefolia*, var. *coriacea*, Gray. This is certainly going too far altogether. No doubt there is a distinct species, for which the name of *F. velutina*, Torr., is the oldest, and that of *F. coriacea*, Watson, the more appropriate.

*F. PUBESCENS*, Lam., well described, and it appears that *F. expansa*, Willd. Berl. Baum. (1811) belongs to it. But Wenzig adds:

Var. *BERLANDIERIANA*, on *F. Berlandieriana*, DC. And in a foot note: "*F. Berlandieriana* DC. samaris apteris est *Fr. pubescentis* Lam. varietas, non *Fr. viridis* var. ut cl. Gray vult." This without seeing Berlandier's specimens. We have before us, from the latter's herbarium, counterparts of the specimens sent to Geneva. The form from Austin, with foliage only, has a developing leaf, which is perfectly glabrous, as are the adult leaves and branchlets. The fruit bearing specimens, from the Nueces, are equally glabrous, with traces of the barbellation along the midrib, especially in the axils of the veins, which is common in our *F. viridis*, of which we take it to be a mere variety. Wenzig has Mexican specimens of Schaffner's collection, as we have also, but not under the same number. These Ashes from San Luis Potosi, also Monterey, are rather peculiar, but we judge are of this species.

Var. *LINDHEIMERI*, on Lindheimer's No. 653, 1847. We have it also, coll. 1848, with forming fruit. Clearly same as the above.

*F. VIRIDIS*, A. Gray. This, as just stated, is placed in the "Periptera" division, next to *F. platycarpa*, where it does not at all belong. *F. viridis*, Michx. f. is referred as synonym to *F. Americana*, on the strength of Michaux's citation of *F. juglandifolia*, Lam., and on his description and figure of the fruit. And it seems from another note, that Koch found an original specimen in herb. Jus-sieu, which was *F. platycarpa*, and also in other herbaria both *F. Americana* and *F. pubescens* under this name. To all which it is to be said: first, that the foliage of Michaux's plate can not belong to *F. platycarpa*, which grows only south of the range in which Michaux observed his Green Ash, while the figure of the fruit is widely different. Michaux's description of the tree and its foliage exactly applies to the Green Ash. He says it is Muhlenberg's *F. concolor*, and he saw it at the latter's stations on the Susquehanna. He should have adopted this name, and we should have been justified in doing so, perhaps, though only a catalogue name. The perplexities of the case we long ago cleared up, as we still believe, by the hypothesis that in Michaux's Sylva, the fruit of *F. Americana* and *F. viridis* are mismatched on the plate, and consequently the author described the fruit of the Green Ash from the plate or from the specimens figured on the plate.

So, unless we fall back on the excellent name of *F. concolor*, Muhl., we must still, for the Green Ash, write *F. viridis*, Michx. f. (in part), Gray, Man., etc. Yet we may be driven to another alternative, and do with the whole of the Green Ash what Wenzig has done with a part of it, that is, reduce it to a variety of *F. pubescens*. Undoubtedly the two appear to run together.

Of the true *Periptera*, viz. *F. PLATYCARPA*, *F. QUADRANGULATA*, *F. ANOMALA*, and *F. OREGONA*, there is nothing here to remark. ASA GRAY.

*A Revision of the genus Clematis of the United States*, by Joseph F. James. From the Jour. Cin. Soc. Nat. Hist. 6, July, 1883.

This is a paper read by title before the American Association of 1882. The author has "collected the descriptions of all the species of the United States," and has given their geographical range and synonymy. Of course there will always be a difference of opinion as to whether certain forms should rank as species or varieties. For instance, *C. Scottii*, Porter, is probably only a form of *C. Douglasii* with broader leaflets; while the author will hardly be followed in reducing *C. Fremontii*, Watson, to a variety of *C. ochroleuca*, Ait., and the same might be said by some of *C. coccinea*, Engelm., and *C. Pitcheri*, T. & G., as varieties of *C. Viorna*. It is hardly correct to say that "the genus *Clematis*

forms the tribe *Clematide* of *Ranunculaceae*," as there is associated with it a small genus of Southern Asia, *Nararelia* by name. The geographical range is given quite fully, and is evidently the result of much care and correspondence.

*Descriptions of Iowa Uromyces*, by J. C. Arthur. From Bulletin Minn. Acad. Nat. Sci., Vol. II.

*Some Algae of Minnesota supposed to be Poisonous*, by the same. l. c. The former paper is the result of a careful study of a portion of the American *Uredineae*, to which group the author has lately been paying special attention. The effort is most commendable to attract attention to plants too much neglected, and if ever the study of the lower Cryptogams ceases to be a bugbear, it will largely be due to just such workers as Prof. Arthur. The novel part about the present paper is that it attempts to group under each species all the three stages in its life history. Of course this is the thing to do, and it has only been because of our ignorance of the true relationship among these scattered phases, that it has not long since been done. A careful set of cultures is what is needed to unravel the snarl. In the meantime it has been customary to base species upon the characters of one or two phases, and to distribute the phases under separate genera, and Prof. Arthur shows considerable boldness in cutting loose from the old models, and attempting a natural grouping. The species number 12, one being new.

The second paper describes the discovery of some *Nostoc*, probably *Rivularia*, in certain Minnesota lakes, which was supposed to have caused the death of many cattle drinking their waters. These same "bur-balls" were found by the writer in great abundance in one of the small, swampy lakes along the Kankakee river in Jasper county, Ind. A large drove of cattle were drinking from it, but no ill-effects were heard of, although camping in the vicinity for a week gave abundant opportunity. These Algae have already been noticed by Dr. Farlow in the May GAZETTE.

*Lectures delivered to the Employes of the Baltimore and Ohio Railroad Company*, by Drs. H. Newell Martin, H. Sewall, W. T. Sedgwick, and W. K. Brooks, of the Johns Hopkins University. Baltimore, 1882. 8°, 98 pp. Illust.

The marked success attending the delivery and distribution of these four lectures should prove an incentive to like undertakings elsewhere. The third lecture, on fermentation, by Dr. Sedgwick, is the only botanical one of the series. Botany has many topics of equal interest to a general audience, and ways might more frequently be devised to give those whose employment does not permit of much reading, and of no investigation, some insight into the more wonderful of the recent advances of science.

*North American Fungi*, by J. B. Ellis. Centuries X and XI. Newfield, 1883.

The continuance of this publication is a gratifying indication of the growing interest in this department of our science. Too great praise can not be bestowed upon the neatness and care, as well as the scientific accuracy with which the volumes are prepared, qualities which make the work indispensable to the investigator. In Century X the genera *Agaricus*, *Marasmius*, *Polyporus*, *Hydnium*, *Melanconium*, and *Peziza* are represented by from five to nine species each, while most of the other genera of the volume have but one representative. Century XI is composed of *Uredineae*, excepting the last eleven examples, which belong to the *Ustilagineae*. The determination and synonymy of this volume has been largely the work of Dr. W. G. Farlow, of Harvard University. The principal genera are *Puccinia* with thirty-six examples, *Aecidium* with twenty, *Ustilago* with nine, and *Peridermium*, *Uromyces* and *Rostelia* with six each. Some new species and changes of synonymy may be passed over for the present, as critical notes by Dr. Farlow will soon appear in the proceedings of the American Academy.

*Catalogue of Publications of the Smithsonian Institution, with an Alphabetical Index of Articles*, by W. J. Rhees. Washington, 1882. 8°. XIV, 328 pp.

This volume will prove very serviceable to all who desire information from or about the publications issued under the authority of the Institution. The classified list of separate works contains twenty entries under botany, while the general index has a large number of references to scattered articles.

*Bentham and Hooker's Genera Plantarum*, Vol. III, Part 2. This part contains the thirty-four orders of Monocotyledons, and completes one of the greatest botanical works of the century. No botanical library can afford to be without it any more than it can dispense with DeCandolle's *Prodromus*, and now the complete generic arrangement of a general herbarium becomes possible. Singularly enough the orders of Phanerogams number exactly 200. The Monocotyledons are divided into seven series, as follows, the orders mentioned being only those of our own flora:

Series I, characterized by its petaloid perianth, inferior ovary, and very small exalbuminous seeds, is called *Microspermar*, and includes Hydrocharideæ, Burmanniaceæ, and Orchidaceæ.

Series II, differing from the former in its copious albumen, is named *Epigynæ*, and contains Bromeliaceæ, Hæmodoraceæ, Irideæ, Amaryllideæ, and Dioscoraceæ.

Series III differs from the last in its free ovary, and is called *Coronariæ*, containing Liliaceæ, Pontederiaceæ, Xyrideæ, and Commelinaceæ.

Series IV differs from the last in its small rigid calyx-like perianth, and is named *Calycineæ*, including Juncaceæ and Palmae.

Series V has the perianth reduced to setæ or wanting, and is called *Nudifloræ*, including Typhaceæ, Aroideæ, and Lemnaceæ.

Series VI has distinct carpels and exalbuminous seeds, and is called *Apoearpæ*, containing Alismaceæ and Naiadaceæ.

Series VII has flowers in heads or spikes and the parts glumaceous, of course called *Glumaceæ*, and containing Eriocauliæ, Cyperaceæ, and Gramineæ. Thus our flora contains 22 of the 34 orders. We can only make a few notes at random of the more striking changes.

*Smilacæ* is made to rank only as a tribe under *Liliaceæ*. The genus *Anacharis* becomes *Elodea*. The family of Orchids seems to number the most species, containing nearly 5,000 species under 334 genera, the two largest genera being *Habenaria* and *Epidendrum*, each with 400 species. *Cyperaceæ* and *Gramineæ* come next in point of numbers, with *Liliaceæ* as fourth with 2,100 species and 187 genera, *Allium* being the largest with 250 species. Watson's *Oakesia* is returned to *Urularia*. In the family of *Palmæ* there are about 1,100 species and 132 genera. It was with very great pleasure that we noted the dedication of a genus of palms to our good friend Mr. Sereno Watson, as distinguished among botanists as he is amiable among men. The genus is founded upon what is called *Sabal serrulata* in Chapman's *Flora*, and is called *Serenau*, as the name *Watsonia* was already in use for an African genus of the *Irideæ*. *Speirodela* has again been remanded to *Lemna*. Our authors are very strongly impressed with the idea that there are far too many species of *Cyperaceæ* and *Gramineæ*, giving it as their opinion that while among *Cyperaceæ* 3,000 species are described, scarcely 2,200 should be retained. *Cyperus* and *Carex* are the two largest genera of this family, the former containing 700 species, the latter 800, which Bentham and Hooker say should be reduced to 500. *Eleocharis* has become *Heleocharis*. Mr. Bentham's changes among the *Gramineæ* have already been pretty fully noted in advance in this journal, and with even greater particularity in the *Torrey Bulletin* for November, 1882. We must certainly give expression to the general sentiment among botanists when we say, that these most distinguished authors have placed the botanical world under an obligation which can hardly be expressed, much less repaid.